INFORMATION TECHNOLOGY ADOPTION INHIBITOR-INFLUENCER MODEL FOR SMEs IN THE CONSTRUCTION INDUSTRY

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I dedicated this work to my beloved father and mother

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ALHAMDU LILLAH

ABSTRACT

Small and Medium Enterprises (SME) in the Nigerian construction industry has been struggling with the issues of improper materials management practices. In an attempt to address these issues, Information Technology (IT) was initiated primarily to overcome the shortcomings of the conventional materials management practices. Although, IT was aimed to greatly enhance performance and reduce non-value adding activities, IT structures in reality lack clear adoption realisation process to drive in within such factors to deliver the adoption of IT in SMEs. The current trend of materials management practices in small and medium construction companies has been the subject of criticism. IT adoption has not had the expected resounding success of a total adoption and utilisation. This research has empirically identified factors inhibiting and influencing IT adoption in Nigerian SMEs. The research focuses on the factors with respect to their inhibiting and influencing impact to IT adoption within the context of SMEs in Nigeria with the aim to develop IT adoption inhibitor-influencer model for SME's IT adoption enhancement. The methodology adopted in this research was mixed methods approach. Interview data was obtained from seven (7) SMEs, based on a systematic sampling of the SMEs in the north-eastern region of Nigeria and the data were analysed using content analysis. Whilst questionnaire survey data was obtained from 187 respondents and the data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) to test the relationships between the exogenous constructs (inhibitor and influencer) to endogenous construct in order to validate and confirm the developed influencing factors for IT adoption model. The findings reveal that cost, government, and employees factors have significant influence on SME's IT adoption, whilst, technology and practices factors were found to have a partial inhibiting effect on SME's IT adoption. This research provides a multi-dimensional perspective for the enhancement of SME's IT adoption and can contribute to high project performance. It is also provide mechanism for realising effective materials management practices for delivering successful projects in the SME construction companies. In conclusion, it is timely to reverse the trend of low IT adoption within SMEs in the construction industry in Nigeria.

ABSTRAK

Perusahaan Kecil dan Sederhana (PKS) dalam industri pembinaan di Nigeria telah bergelut dengan isu-isu amalan pengurusan bahan yang tidak cekap. Dalam usaha untuk menangani isu-isu ini, Teknologi Maklumat (IT) telah diperkenalkan terutamanya untuk mengatasi kelemahan dalam amalan pengurusan bahan secara konvensional. Walaupun, IT bermatlamat untuk meningkatkan prestasi dan mengurangkan aktiviti penambahan nilai, struktur IT pada hakikatnya tidak mempunyai proses penyesuaian penerapan yang jelas untuk memacu penggunaan IT dikalangan PKS. Trend semasa dalam amalan pengurusan bahan dikalangan PKS telah menjadi subjek kritikan. Penerapan IT tidak menjanjikan kejayaan sepenuhnya dalam penenerapan dan penggunaannya. Kajian ini telah mengenal pasti faktor-faktor yang mempengaruhi dan menghalang penggunaan IT dalam kalangan PKS di Nigeria. Penyelidikan ini memberi tumpuan kepada faktor-faktor yang menghalang dan mempengaruhi terhadap penggunaan IT dalam konteks PKS di Nigeria dengan matlamat untuk membangunkan model bagi meningkatkan penggunaan IT dikalangan PKS. Metodologi yang digunakan dalam kajian ini adalah melalui pendekatan kaedah campuran. Data temuduga diperoleh daripada tujuh (7) PKS, berdasarkan pensampelan sistematik PKS di wilayah utara-timur Nigeria dan data dianalisis menggunakan analisis kandungan. Sementara itu data tinjauan melalui soal selidik diperoleh daripada 187 responden dan data dianalisis menggunakan *Partial Least Squares Structural Equation Modelling* (PLS-SEM) untuk menguji hubungan antara pembinaan *exogenous* (*inhibitor dan influencer*) dan *endogenous* (IT) untuk mengesahkan faktor-faktor yang mempengaruhi model penerapan IT. Hasil kajian menunjukkan bahawa faktor kos, kerajaan, dan kakitangan mempunyai pengaruh penting terhadap penggunaan IT, sementara itu faktor teknologi dan amalan didapati mempunyai kesan menghalang separa terhadap penggunaan IT dikalangan PKS. Penyelidikan ini menyediakan perspektif pelbagai dimensi untuk meningkatkan penggunaan IT dikalangan PKS dan boleh menyumbang kepada prestasi projek yang tinggi. Ianya juga menyediakan mekanisme untuk merealisasikan amalan pengurusan bahan yang berkesan untuk kejayaan projek bagi syarikat pembinaan PKS. Secara

kesimpulannya, adalah tepat pada masanya untuk mengubah trend penggunaan IT yang rendah dalam PKS bagi industri pembinaan di Nigeria.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

AVE: Average Variance Extracted

CR: Composite Reliability

GDP: Gross Domestic Product

IT: Information Technology

NITDA: National Information Technology Development Agency

NPC: National Population Commission

PLS-SEM: Partial Least Squares-Structural Equation Modelling

PLS: Partial Least Squares

SME: Small and Medium Enterprises

SMEDAN: Small and Medium Enterprises Development Agency of Nigeria

UTHM: Universiti Tun Hussein Malaysia

UUM: University Utara Malaysia

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CHAPTER 1

INTRODUCTION

1.1 Introduction

1.2 Background

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

CHAPTER 3

METHODOLOGY

3.1 Introduction

CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 Introduction

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